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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/716,518

11/20/2003

Ming-Chun Chang

BHT-3111-381

6882

7590

10/19/2004

BRUCE H. TROXELL

SUITE 1404

5205 LEESBURG PIKE

FALLS CHURCH, VA 22041

EXAMINER

NGUYEN, LONG T

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/716,518

Applicant(s)

CHANG ET AL.

Examiner

Long Nguyen

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claim 5 is objected to because of the following informalities: In claim 5, line 1, "wherein" should be deleted to correct the grammar in the sentence. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4 and 6-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2816

With respect to claim 4, “the ratio of the output of the second source and the output of the first source is a constant” is indefinite because it is not clear how the ratio is a constant since the disclosure does not clearly disclose the ratio of current 500 and current 700 is a constant.

With respect to claims 6-9, “the first source and the second source” lacks antecedent basis. It appears that claims 6-9 should be dependent directly on claim 2.

With respect to claim 10, the recitation “wherein the time delay and the magnitude of the second differential current pair are determined according to the first differential current pair” is misdescriptive since it does not make sense. Note that it is seen from Figure 3 that the first differential current pair (51a, 51b) are controlled by a first differential signal (53a, 53b) while the second differential current pair (71a, 71b) are controlled by a second differential signal (73a, 73b) wherein the second differential signal is a delayed version of the first differential signal. Clearly, the time delay and the magnitude of the second differential current pair are not determined according to the first differential current pair. Appropriate correction is requested.

Claims 11 and 12 are indefinite because they include the indefiniteness of claim 10.

Also in claim 11, the recitation “time delay of the first and the second differential current pair is adjustable” is indefinite because it is not clear how the first differential current pair having “time delay” and how the second differential current pair having “time delay”. It is clear from Figure 3 that there is only one time delay which is the time delay between the first signal and the second signal. Further, the claim is also indefinite because it is not clear how the delay is “adjustable” since the disclosure shows only one time delay circuit (Figure 3) and the disclosure does not specifically disclose that the time delay is adjustable. Appropriate correction is requested.

Art Unit: 2816

Also in claim 12, the recitation “the ratio of the first differential current pair and the second differential current pair is a constant” is indefinite because it is not clear how to take the ratio of “differential” pairs (i.e., it is not clear the ratio of which current and which current in the two pairs). Further, the above recitation appears to be misdescriptive since the disclosure does not disclose a ratio of two “differential” pairs is a constant. Appropriate correction is requested.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2 and 5-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hunt

(USP-5,864,587)

With respect to claims 1 and 2, Figure 7 shows an apparatus, which includes: a first differential current pair (CT1, CT3, CS3 and VDD), a first current (current of CT1), a second current (current of CT3), a first control signal (A, AA); a second differential current pair (CT2, CT4, CS4 and VDD), a third current (current of CT2), a fourth current (current of CT4), a second control signal (AN, AAN) wherein the second control signal (AN, AAN) is the delayed of the first control signal (A, AA) as shown in Figure 7 (see ST1, ST2, CS1 and CS2); a first output current signal (CS5), and a second output current signal (CS6). Note that because the structure of the claim is fully met, so it also meets the functional intended use limitation “for inhibiting a ring back effect of a circuit”.

Art Unit: 2816

With respect to claim 5, Figure 7 shows the apparatus including a time delay unit (ST1, ST2, CS1 and CS2).

With respect to claim 6, at least one of the first and second sources includes a current source (CS3, CS4).

With respect to claim 7, at least one of the first and second sources includes a voltage source (VDD and CS3 includes voltage source VDD; VDD and CS4 includes VDD).

With respect to claim 8, because current sources (CS3, CS4) are constant so it is reasonable (broad reasonable interpretation) to construe that the current sources are “independent” sources.

With respect to claim 9, because current sources (CS3, CS4) in Figure 7 are implemented with MOSFET transistor (CST3 and CST4, see Figure 9), and it is known that the current of a MOSFET transistor are depended on the sizing of the transistor so it is reasonable (broad reasonable interpretation) to construe that current source (CS3, CS4) are “dependent” sources.

With respect to claim 10, Figure 7 meets all the limitation of the apparatus claim as discussed above. Hence, it also deems to meet all the limitations of the method claim 10.

Insofar as understood in claim 11, because the time-delay unit (ST1, ST2, CS1, CS2) depends on the sizing of the transistors in the unit, so when the size of the transistor is adjusted then the time delay is also adjusted. Thus, for broad reasonable interpretation, the time delay is adjustable.

Insofar as understood in claim 12, the Hunt discloses that the ratio of the first and second current sources is constant ( $CS3 = CS4$ , see Figure 9 CST3 with  $M = 2$  and CST4 with  $M = 2$ ).

Art Unit: 2816

7. Claims 1-6, 9, 10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Garlepp et al. (USP 6,133,773).

With respect to claims 1 and 2, Figure 1 shows an apparatus, which includes: a first differential current pair (M1, M2, I1), a first current (current of M1), a second current (current of M2), a first control signal (VIN1); a second differential current pair (M3, M4), a third current (current of M3), a fourth current (current of M4), a second control signal (VIN2) wherein the second control signal (VIN2) is the delayed of the first control signal (VIN1) as shown in Figure 2A; a first output current signal (the current at the node connecting M1 and M3 together), and a second output current signal (the current at the node connecting M2 and M4 together). Note that because the structure of the claim is fully met, so it also meet the functional intended use limitation “for inhibiting a ring back effect of a circuit”.

With respect to claim 3, the Garlepp et al. discloses that the second current source (I2) is smaller than the first current source (I1), (see Col. 1, lines 33-42 and 48-50 for case where I2 is less than I1 depending the require phase of the output signal).

With respect to claim 4, because  $I1 + I2 = I_{total}$ , so when I1 and I2 are set for a particular output voltage, then the currents at the set point are constant, so the ratio of I1 and I2 is constant (i.e., not variable).

With respect to claim 5, because VIN2 is a delay of VIN1 as shown in Figure 2A, so it is inherent that there is a time delay unit to produce VIN2.

With respect to claim 6, at least one of the first and second sources includes a current source (I1, I2).

Art Unit: 2816

With respect to claim 9, because current sources (I1, I2) are dependent sources (because the value of currents I1 and I2 depend on the requirement the require phase of the output signal).

Insofar as understood in claims 10 and 12, Figure 1 meets all the limitation of the apparatus claim as discussed above with respect to claims 1 and 4. Hence, it also deems to meet all the limitations of the method claims 10 and 12, respectively.

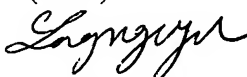
### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directly to Examiner Long Nguyen whose telephone number is (571) 272-1753. The Examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached at (571) 272-1740. The fax number for this group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Long Nguyen  
Primary Examiner  
Art Unit: 2816